Montgomery County Clean Water Task Force

Meeting Summary
March 1, 2010; 1:00 - 5:00pm
Rockville Library, 2nd floor meeting room

Meeting Participants

There were 23 participants including representatives from the agencies listed below. Attachment 1 shows participant information.

- Department of Environmental Protection (DEP)
- Department of General Services (DGS)
- Department of Transportation (DOT)
- Department of Permitting Services (DPS)
- Fire and Rescue Services (FRS)
- Maryland-National Capital Park and Planning Commission (MNCPPC) – Parks
- Maryland-National Capital Park and Planning Commission (MNCPPC) – Planning
- Montgomery County Public Schools (MCPS)

Background

The Department of Environmental Protection invited the agencies and external stakeholders from the Clean Water Task Force (CWTF) to discuss potential code modifications to increase opportunities for Environmental Site Design (ESD)/Low Impact Development (LID) stormwater management in the County. The discussion identified; which modifications could be easily implemented, which had impediments but merit further discussion, and which will be difficult to achieve. The meeting agenda is included as Attachment 2.

Meeting agenda, attendees, presentations, and summary are posted at:
http://www.montgomerycountymd.gov/StormwaterPermit/

Introduction

Bob Hoyt, Director, Montgomery County Department of Environmental Protection (DEP)

Mr. Hoyt welcomed CWTF members and other participants. He informed the group that the Maryland Department of the Environment (MDE) had issued the County's Municipal Separate Storm Sewer System (MS4) Permit. He underscored how important it is for the agencies to coordinate to meet the permit requirements and protect water resources without sacrificing important county goals.

Common Issues and Concerns

Nicole Stern, Biohabitats

Ms. Stern presented common issues and concerns from the February 1 CWTF meeting. CWTF members discussed five issues:

- Road Code – The Road Code had been recently updated. No impediments and only limited gaps and opportunities were identified in the current review.

- ESD and Trees – Some group members were concerned that stormwater from ESD techniques might adversely affect trees along roadways. Several people suggested using salt tolerant, native species of trees in ESD practices. CWTF members suggested that the County should select trees to meet stormwater management, landscape architecture, and DOT needs. Street trees need to be able to withstand usual conditions associated with roads and road maintenance. ESD practices will need to support tree replacement if necessary. The revised Road Code requires that DOT aim for 25% of stormwater to be managed in vegetated buffers within the right of way. One member explained that this was not a problem in roads with open section ditches but for locations that use curbs and gutters. The issue of street trees combined with ESD stormwater practices had been discussed in detail as part of the Road Code review and had been continued through an informal interagency working group

during 2009. CTWF members decided to organize a discussion to follow up on those previous interagency meetings and attempt to build consensus on combining street trees with stormwater management uses.
  - Meo Curtis agreed to consolidate a list of issues based on previous interagency meetings and convene a follow up meeting to identify tree species that could be used for the County's street tree program and for vegetated stormwater management. She called for a decision making timeline for street trees and ESD. Rick Brush (DPS), Brett Linkletter (DOT), and Josh Sloan (MNCPPC – Planning) agreed to participate. Biohabitats will assess how other urban jurisdictions deal with ESD, trees, and road issues.

Rick Brush, DPS:
  - Planning staff may have difference preferences for trees in urban landscapes.
  - ESD trees need to be evaluated for their salt tolerance and water absorption capacities.
  - Agencies need to come to concurrence about which trees are acceptable to use for different needs. For
  - example trees that may be salt tolerant and preferable for roadside ESDs may not be preferable by landscape architects.
  - The road code should be used as the centralized location for tree listings.

Michael Mitchell, DOT:
  - With regard to maintenance: Trees in bioretention facilities can complicate maintenance of the bioretention facility. Can a tree with a matured root system 6-10 years down the line sustain maintenance impacts?
  - The road code currently excludes trees for ESD
  - The road code has a goal to manage 25% of stormwater in the right of way.

Craig Shuman, MCPS:
  - There should not be a requirement to use trees in contentious areas. It is not realistic to require planting trees where maintenance is likely to destroy the tree.

- Fire and Rescue Equipment – Marie LaBaw (FRS) discussed the need for pervious pavement that supports fire and rescue equipment without sustaining extensive damage. A current impediment is that manufacturers do not warranty permeable pavement systems that can withstand FRS vehicle weights. FRS is excited about reinforced turf but there are no installations in the County they can test. Also, Dr. LaBaw pointed out that alternative surfaces may not be appropriate everywhere and there are different requirements for travel lanes versus set-up areas.
  - Steve Federline (MNCPPC-Planning) explained that over time the surfaces become impervious. The goal should be to minimize impervious surfaces first.

- WSSC plumbing code vs. rainwater reuse – Ms. Stern explained that code does not allow reusing collected rainwater inside buildings, which is not currently a common practice. The code does allow rainwater to be used for irrigation.

- Combining green design strategies – Ms. Stern demonstrated several ways combine multiple technologies in the same space. Creative thinking about potential conflicts and pairing the appropriate technologies together is an effective strategy to avoid complications.

Maintenance

Amy Stevens, Montgomery County DEP

Ms. Stevens discussed the 2007 stormwater act and ESD maintenance. DEP will be accountable for ESD facility maintenance. DEP will keep an inventory of ESD practices in Montgomery County including schools but excluding individual jurisdictions. DEP will be responsible for inspecting ESD practices. Ms. Stevens said DEP is discussing developing maintenance programs for ESD practices. She conveyed that there may be access requirements for ESD practices on private property so that DEP staff can perform inspections. Ms. Stevens noted that DEP is currently looking into the types of easement and maintenance agreements the County will need for ESD practices. The County's current program focuses on maintenance of the structural components of stormwater practices. DEP is looking at how to define

"structural" in terms of ESD practices, and is currently finishing up a bioretention maintenance policy. As DEP develops maintenance and inspection policies, they will be available for agency comment. DEP is also designing a program to train HOAs and contractors to maintain ESD practices.

Ms. Stevens encourages agency representatives to discuss their concerns with DEP including:

- What qualifies as a structural ESD practice?
  - Rick Brush (DPS) cautioned that DEP needs to define how stringent maintenance of non-structural facilities and ESD on private lots will be. DEP will need to communicate with individual homeowners.
- How to maintain trees and which ESD designs are easiest to maintain.
- Bioretention practices and their maintenance needs.

Mike Riley, MNCPPC-Parks:

- It is important to identifying the cost of maintaining ESD practices. Organizations need to be aware of this cost in advance so that it can be included in budget planning.
- An analysis of the cost of maintaining ESD systems compared to conventional systems would be useful to assist in decision making. Parties responsible for maintenance need to be made aware of the cost in advance. If practices are not maintained 20 years from now because of financial shortfall, the we need to rethink maintenance. It will be important to clarify where the revenue will come from.
- If all ESD is going to be nonstructural then that would have a significant budget impact

Steve Federline, MNCPPC – Planning

- Someone will need to be accountable for short and long term maintenance.
- The county will need to train HOAs to maintain ESD practices.
- DEP should hold HOAs accountable for maintenance.
  - Audience Comment – Not every neighborhood has an HOA.

Rick Brush, DPS:

- How stringent will ESD maintenance requirements be for nonstructural facilities on private property?
- Howard County is considering not allowing structures on private property.
- We need to understand the maintenance capabilities of homeowners, and what limitations there may be even with proper training.

Density, Redevelopment, Infill and Sustainability Audit

Nicole Stern, Biohabitats

Ms. Stern discussed the use of ESD practices in highly dense areas. She presented several examples of redevelopment and infill development projects that integrated ESD practices.

Dr. Birkhoff led a facilitated discussion on ESD integration into highly dense areas. Dr. LaBaw (FRS) conveyed her agency's questions about fighting high-rise green roof fires. She suggested alternative water source or pumping facility to provide rooftop water access. Mr. Brush (DPS) responded that vegetation selection for green roofs should exclude brushfire prone plants. CWTF members agreed that the report should address green roof design and rooftop fire prevention.

MEP, Development Approval Process, and Lead Agency Designation

Jennifer Zielinski, Biohabitats

Ms. Zielinski reviewed the State's regulatory definitions of ESD and Maximum Extent Practicable (MEP). The report will not redefine MEP. She discussed approaches for developers and agencies to know when they have implemented to the MEP. The flowchart (Attachment 3) from the Maryland Stormwater Design Manual evaluates MEP in three points throughout the process; concept plan stage, site development plan stage, and final plan submittal stage.

Several members of the CWTF suggested that a checklist would help implement stormwater management practices to the MEP. Ms. Zielinski reported that the DAP Conflict Resolution Working Group currently examines lead agency and stakeholder agency designations. She highlighted four findings and recommendations for the Development Approval Process (DAP):

- Stormwater management is not formally introduced into the DAP until many other site elements have been laid out.
- Site plans and details submitted to different agencies for review do not always show the proposed locations of stormwater BMPs.
- Re-zoning applicants are often required to provide a detailed concept plan early in the DAP.
- NRI/FSD does not identify areas on a development site that may be appropriate locations for stormwater management.

Ms. Zielinski also set forth three questions for discussion:

- Should MEP be in DAP?
- How will MEP be determined equitably across different development projects?
- Is MEP different for new- and redevelopment projects?

Dr. Birkhoff facilitated an inter-agency discussion. Specific agency comments included:

Michael Mitchell, DOT

- The report needs to include the variety of areas discussed, not just a focus on MEP.
- A cost / benefit analysis needs to be included in understanding when developers reach the MEP.
- MEP for transportation is not the same as for development projects.
- The report should focus on the watershed as a whole, stormwater integration into the master plan, is more valuable than a project-by-project focus.

Meosotis Curtis, DEP

- The road code includes stormwater management goals, not regulations.
- Transportation is a unique process; it is linear not vertical.
- It is important that we evaluate and choose ESD practices that serve multiple functions and have multiple benefits.

Steve Federline, MNCPPC – Planning

- Very early coordination will be needed to meet the permits goals
- There are examples that can be assessed as models for understanding how to achieve the MEP; i.e., the forest conservation law.
- This will be a learning process. We will need to revisit our progress to learn and adapt aggressively to achieve our goals.
- The report needs to address ensuring the most “bang for our buck” through focus on regional solutions that may have greater affect on stormwater management than small-scale ESD practices.
- The checklist needs to include options which developers are required to assess, depending on development area and type, to meet a variety of different objectives. This documentation should be customizable and serves to limit and clarify stormwater objectives.
- We need to consider a smart growth strategy. How far do you go to achieve MEP? Does this mean sacrificing density? Should the MEP definition consider density requirements of smart growth?

Craig Shuman, MCPS

- The results of this conversation are recommendations for modifications in the code. These modifications will assist in the implementation of ESD to the MEP. The recommendations should not be mandatory regulations.
- MCPS and other agencies are budget driven. These budgets are time sensitive; we need to ensure that meeting the code does not cause a delay in our processes that are not budgeted. Early integration in the planning process is required for successful implementation.

Josh Sloan, MNCPPC – Planning

- We would like to see the base regulation minimum requirement for stormwater management moved higher. This change essentially functions as a sliding scale, effectively raising the average ESD use.
- Different development scenarios could require different stormwater management checklists.
- The rules could shift for different sized properties.
- We may want to consider setting performance targets for county review.

Rick Brush, DPS

- We can use incentives to increase use of ESD and/or require more ESD use from the onset.
- The report will need to address how ESD to the MEP should be part of redevelopment, sector, and master plans. MEP works within these places and has adverse affects on density requirements. Early integration into these plans would ensure that we do not, in effect, reduce density.
- We should have a "fee-in-lieu" option to ensure that the challenges of meeting density requirements and ESD requirements do not stall progress.
- Concerns regarding grandfathering development projects in without meeting ESD requirements will no longer be an issue; the state is considering legislation.

Rose Krasnow, MNCPPC – Planning

- Achieving the MEP in the development approval process is a regulatory requirement, not an option.
- Developers are going to try to find reasons why ESD practices are unacceptable for their projects. The lead agency will determine which reasons will be acceptable and which will not be. An example of an acceptable reason to discount a potential ESD practice would be recognition as a historic location.

Open Discussion

The public and other agency staff provided comments twice during the meeting. Several public participants voiced their concerns about ESD and stormwater management.

- Dusty Rood (Rodgers Consulting) suggested that the County should consider project viability along with density in urban areas. More ESD might make a project less viable even if it does not harm density. Mr. Rood subsequently communicated to Ms. Ciarametaro that he would be forwarding additional comments. These are included as Attachment 4.
- Several participants suggested maintenance workers will need a comprehensive inventory and mapping system with instructions for accessing ESD facilities. Some facilities can be very difficult to identify. Some ESD facilities blend into the natural surroundings, and most maintenance workers do not have access to complicated GIS mapping technology to assist in identifying facilities. Mike Riley, MNCPPC-Parks, suggested individualized inventory and maintenance standards for each facility
- A public participant recognized the need to consider ways we can follow ADA requirements while reducing impervious surfaces.
- Doug Redmond, MNCPPC-Parks discussed the delicate balance between doing things off site and meeting stormwater management goals. Historically, offsite meant parkland which already has a purpose. We need to understand what offsite is going to be? If all stormwater management is regional (offsite) then we are not doing ESD.
- A member of a local watershed society called for limiting student parking and public parking lots to reduce impervious surface. A program incentivizing shared parking would be a valuable investment. He also conveyed that the county should have eminent domain over private parking lots to convert underutilized lots into bioretention facilities.
- Craig Shuman, MCPS, commented that school parking is available for community use during non-school hours. Mr. Shuman said there have been requests for committed spaces to groups on the weekends. MCPS has not figured out an equitable way to commit spaces without precluding anyone from the public from using the spaces.

- A local watershed group representative pointed out that abandoned rights of way account for large amount of impervious surface. These roads are maintained by homeowners, and could provide additional opportunities for implementing ESD.

Summary and Next Steps

Final Report

The group agreed that the final report should address the following issues:

- What kinds of trees are acceptable in which situations?
- DEP is accountable for maintenance.
    - Advanced notice is necessary for agencies to be able to integrate maintenance into their budgets.
    - Will HOAs be responsible for maintaining their ESD features? Will the county provide assistance and training?
    - What is the appropriate way to maintain alternate surfaces?
    - Is there a difference between public and private facility maintenance and inspections?
        - The report should clarify who will be responsible in each situation.
- The report should capture fire prevention concerns for green roofs, particularly high-rise buildings.
    - What plants are acceptable for green roof use?
    - Fire and Rescue access points are needed on high-rise green roofs
- ESD inventory and mapping tools will need to be centrally located
    - Useful for assisting maintenance workers to locate ESD sites.
    - There is alternative value to public groups (such as HOAs) having access to this information.
- The report should include how ESD affects project viability, separate from the impacts of density.
- The report should clearly define MEP.
    - Developers need clear questions and criteria for evaluating and defining the MEP on a site-by-site basis.
    - The report should include an indicator for when a developer has reached the MEP.
    - MEP should be included in the Development Approval Process.
- The report should convey the importance of early consultation in the planning process
    - ESD to the MEP should be written into the County's master and sector plans
- The report should caution that transportation is unique compared to other development projects
- The report should indicate how stringent DEP would be with enforcing and maintaining ESD sites.

Next Steps

- Trees - Meo will convene a follow up meeting to identify issues and list of street trees that could be used in stormwater management.
    - Rick Brush (DPS), Brett Linkletter (DOT), and Josh Sloan (MNCPPC – Planning) will participate.
    - Biohabitats will assess how other urban jurisdictions deal with this problem as potential models for solutions.
- The permit has been issued and a report is required by May 4, 2010.
    - DEP will be sending around a draft document to agencies towards the end of April.
- Please send any clarifications and corrections regarding this meeting summary to ESD_review@montgomerycountymd.gov.

Montgomery County Clean Water Task Force

Meeting Summary
March 1, 2010; 1:00 - 5:00pm
Rockville Library, 2nd floor meeting room

Attachment 1 – Participant Information

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
RAF Andrew Frank	MNCPPC	On Record
Sean Gallagher	MCPS	On Record
Gene Giddens	MNCPPC	On Record
Gary Gumm	WSSC	On Record
Mohammad Habibian	WSSC	On Record
John Hench	MNCPPC	On Record
Arthur Holmes	DOT	On Record
Bob Hoyt	DEP	On Record
Richard Jackson	DGS	On Record
Bruce Johnston	DOT	On Record

MONTGOMERY COUNTY 17 76 MARYLAND

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
Harold Adams	DGS	On Record
Mary Bradford	MNCPPC	On Record
Rick Brush	DPS	On Record
Jai Cole	MNCPPC	On Record
Keith Compton	DOT	On Record
Violet Conge	DGS	On Record
Meosotis Curtis	DEP	On Record
David E. Dise	DGS	On Record
Mary Dolan	MNCPPC	On Record
Michael Donahue	FRS	On Record

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
Rose Krasnow	MNCPPC	On Record
Joseph Lavorgna	MCPS	On Record
Keith Levchenko	CCL	On Record
Brett Linkletter	DOT	On Record
Geoffrey Mason	MNCPPC	On Record
John Nissel	MNCPPC	On Record
Hamid Omidvar	DGS	On Record
Suresh Patel	DGS	On Record
Mitra Pedoeem	MNCPPC	On Record
Mark Pfefferle	MNCPPC	On Record

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
Doug Redmond	MNCPPC	On Record
Carla Reid	DPS	On Record
Mike Riley	MNCPPC	On Record
Steven Shofar	DEP	On Record
Craig Shuman	MCPS	On Record
Joshua Sloan	MNCPPC	On Record
James Song	MCPS	On Record
Millie Sounders	DGS	On Record
Rollin Stanley	MNCPPC	On Record
Amy Stevens	DEP	On Record

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
Steve Supratt	MCDOT	steven.supratt@montgomerycountymd.gov
Russell Pierce	Pierce County	Russell12dp13 @yahoo.com
Rose Krasnow	MNCPPC	rose.krasnow@mncppc-mc.org
Bruce Gilmore	Anacostia Watershed Society	rgilmore@anacostiaWS

MONTGOMERY COUNTY 17 76 MARYLAND

Montgomery County
Clean Water Task Force

Public Meeting Sign-In Sheet

March 1, 2010

Name	Agency / Organization	Email
David Vismara	MNCPPC	On Record
Stan Wong SW	DPS	On Record
Mark Symborski	M-NCPPC	mark.symborski@mncppc-mc.org
Ahmed Naji	DGS	
Michael Kay	DGS	Michael.Kay@montgomerycountymd.gov
Steve Federline	M-NCPPC - Env. Planning	steve.federline@mncppc-mc.org
Marie LaBaw	MCFRS	marie.labaw@montgomerycountymd.gov
Michael Mitchell	MC - DOT	michael.mitchell@montgomerycountymd.gov
Dusty Rood	Rodgers Consulting	DROOD@RODGERS.COM
Stan Dryden	Stormwaterpartners Friends of Rock Creek	jsdryder@concast.net

MONTGOMERY COUNTY 17 76 MARYLAND

Montgomery County Clean Water Task Force

Meeting Summary
March 1, 2010; 1:00 - 5:00pm
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Attachment 2 – Meeting Agenda and Handout

Implementing Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP)

March 1, 2010

What is Environmental Site Design (ESD)?

ESD is a comprehensive design strategy for maintaining predevelopment runoff characteristics and protecting natural resources. ESD relies on integrating site design, natural hydrology, and smaller scale stormwater management controls to capture and treat runoff. In addition to reducing runoff, improving water quality, and reducing issues with flooding, ESD:

- Filters air
- Shades, reducing urban heat island effects
- Provides cooling vegetation
- Provides habitat
- Provides human amenities for recreational landscape experiences
- Provides for the therapeutic benefits of natural areas
- Provides noise and aesthetic buffers
- Provides spaces for research and learning
- Reduces emissions and fuel costs through limited maintenance

Why is ESD to the MEP the focus?

The ESD approach to development, redevelopment, and retrofitting is preferred because it conserves natural features and runoff patterns on a site and reduces pollutants entering the storm drains, stormwater management facilities, and local streams and other waterways.

There are regional and state regulatory requirements to use ESD approaches for stormwater management to protect our local and regional waters and aquatic resources. Montgomery County's new MS4 permit requires that the County identify means of promoting the implementation of ESD. Section E.1.b. of the permit states the following:

Implement the stormwater management design policies, principles, methods, and practices found in the 2000 Maryland Stormwater Design Manual and the provisions of Maryland's Stormwater Management Act of 2007 (Act). This includes, but is not limited to:

i. Within one year of State adoption of regulations required under the Act, modify the County stormwater management ordinance, regulations, and new development plans review and approval processes in order to implement environmental site design (ESD) to the MEP;

ii. Within one year of State adoption of regulations required under the Act, review existing planning and zoning and public works ordinance and other local codes to identify impediments to, and opportunities for, promoting the implementation of environmental site design (ESD) to the MEP.

iii. Within two years of State adoption of regulations required under the Act, modify those ordinances and codes identified in Part III.E.b.ii. above to eliminate impediments to, and promote implementation of, ESD to the MEP; and

iv. Report annually the modifications that have or need to be made to all ordinances, regulations, and new development plans review and approval processes to accommodate the requirements of the Act.

The State adopted regulations required under the Act on May 4, 2009.

Next Steps

- A draft report will be produced on existing laws and regulations, obstacles to implementing ESD, and recommendations to promote the use of ESD techniques to the MEP along with recommended changes needed to implement the revised State Stormwater Design Manual.
- The draft report will be submitted to the CWTF members for review and to MDE by May 4, 2010.
- Draft findings and recommendations will be presented to the public in June 2010.

Montgomery County Clean Water Task Force

March 1, 2010 1:00 - 5:00pm
Rockville Library, 2nd floor meeting room

Purpose

- Identify potential Code modifications that may be easily implemented
- Identify impediments and corresponding Code modifications that merit further discussion
- Identify potential Code modifications that will be very difficult to achieve

Meeting Agenda

1:00-1:15 Introduction, Agenda Review, & Overview of Categories

Objective: provide a clear road map for the meeting
Juliana E. Birkhoff, RESOLVE
Bob Hoyt, Director, Montgomery County Department of Environmental Protection (DEP)

1:15-1:50 Common Issues and Concerns

Brief Presentation and Facilitated Discussion

Objective: address topics of common concern and examples of ESD in these contexts
Nicole Stern and Jennifer Zielinski, Biohabitats
Juliana Birkhoff, RESOLVE
CWTF members

1:50-2:15 Maintenance

Brief Talk and Facilitated Discussion

Objective: discuss inventory, inspection, and maintenance concerns
Amy Stevens, Montgomery County DEP
Juliana Birkhoff, RESOLVE
CWTF members

2:15-3:15 Density, Redevelopment, Infill, and Sustainability Audit

Brief Presentation and Facilitated Discussion

Objective: review applications of ESD in dense, urban areas; discuss challenges and solutions to implementing ESD while encouraging Smart Growth.
Nicole Stern and Jennifer Zielinski, Biohabitats
Meo Curtis, Montgomery County, DEP
Juliana Birkhoff, RESOLVE
CWTF members

3:15-3:25 Open Discussion

Comments from All Stakeholders and Facilitated Discussion

Objective: chance to raise issues that have not been dealt with so far and explore how to learn about them, delegate them, or make recommendations on them

3:25-3:35 Break

3:35-4:35 MEP, Development Approval Process, and Lead Agency Designation

Brief Presentation and Facilitated Discussion

Objective: discuss integration of MEP determination into the Development Approval Process
Jennifer Zielinski, Biohabitats
Meo Curtis, Montgomery County DEP
Juliana Birkhoff, RESOLVE
CWTF members

4:35-4:45 Open Discussion

Comments from All Stakeholders and Facilitated Discussion

Objective: chance to raise issues that have not been dealt with so far and explore how to learn about them, delegate them, or make recommendations on them
Juliana Birkhoff, RESOLVE
CWTF members

4:45-5:00 Summary and Next Steps

Objective: summarize recommendations and next steps for the Code review and the CWTF

5:00 Adjourn

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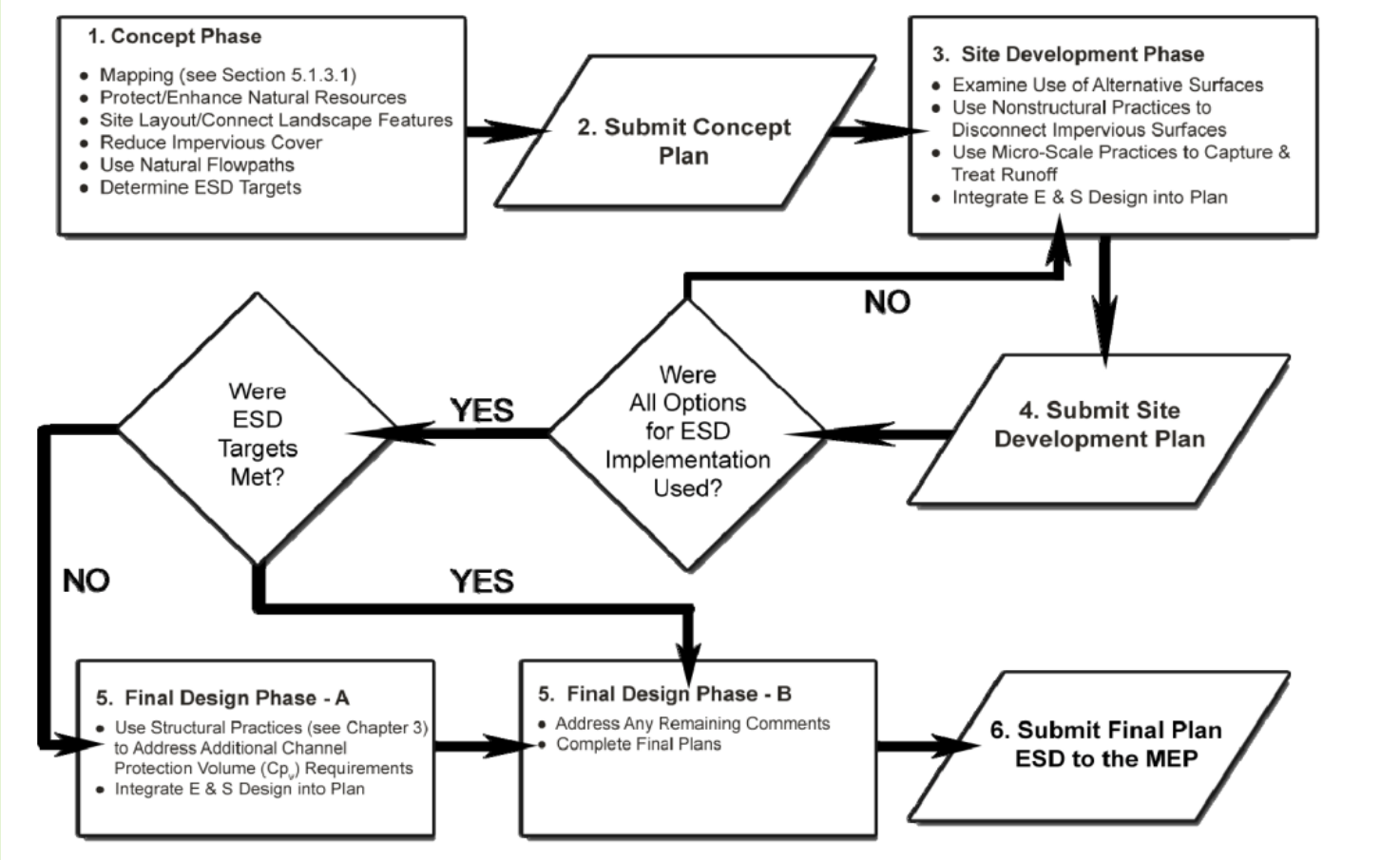
Attachment 3 – Figure 5.1 Design Process for New Development from the Maryland Stormwater Design Manual



Montgomery County Clean Water Task Force

Meeting Summary
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Attachment 4 – Comments from Dusty Rood on Code Review for Implementation of Environmental Site Design

RODGERS CONSULTING
Knowledge • Creativity • Enduring Values

TO: Meo Curtis, Montgomery County Department of Environmental Protection

FROM: Dusty Rood, AICP, LEED AP, Rodgers Consulting, Inc.

SUBJ: Comments re. Code Review for Implementation of Environmental Site Design

DATE: March 5, 2010

Thank you for the opportunity to review the memo and spreadsheet dated December 14, 2009 from Biohabitats, Inc. and Horsley Witten Group, Inc. and for the invitation to attend the CWTF discussion among agencies. This memo contains draft comments as a practitioner of land planning and development implementation in Montgomery County. During the review of the materials and through observations of the Clean Water Taskforce discussions, the realities of development financing and decision making, balancing competing public policies and institutional administrative impediments is missing from this dialogue. I would suggest that in order to effectively 'flesh-out' these realities, which is what I understand the intent of the effort to be, greater integrated education of and collaboration with affected parties is necessary.

The regulations and policies affecting development in Montgomery County are complex and often balance competing public policies. The ordinances are difficult to change and are necessarily written for long-term use. As a result, efforts to incorporate Environmental Site Design (ESD) should focus on expanding the opportunities rather than proscribing specific standards for ESD in the county code.

The history of stormwater management (SWM) has shown us that the preferred approaches change due to federal, state, and county technical regulations. We all know that additional changes are currently under consideration at every level. Having to follow those changes with zoning ordinance text amendments, adds an additional, and unnecessary, impediment to compliance with the next set of regulations.

Our comments are roughly categorized by whether the original comment is in the cover memo or in one of the tabs in the spreadsheet. Our comments are

From Memo

1. **Increasing the opportunities to achieve ESD is critical to achieving the competing public policies.**
   The memo states "There is opportunity to encourage the use of permeable pavement or reinforced turf where typical impervious surfaces, such as walkways and parking facilities are listed within the zoning code, especially within Article C. Permeable pavement could be used for any of these surfaces while reinforced turf would be more appropriate for less intensely used surfaces such as overflow parking. These same impervious surface areas could also be disconnected from centralized drainage infrastructure by directing runoff into various forms of ESD infiltration, bioretention, or storage areas. "
   Recommendation: Support

General Tab:

2. **The multiple tabs make the report difficult to follow and introduce internal inconsistencies.**
   There are a large number of recommendations that are repeated verbatim in multiple sections. Other recommendations have unexplained, and potentially unintended, minor

differences when discussed on different tabs. For example, some recommendations "require: native plants while others "recommend." This table can probably be half its current size with no loss of content

Recommendation: Consolidate the various tabs into one worksheet. Notes or another column to indicate which ESD practice the recommendation is focused on could be added, if desired. Our comments on one section should be carried through and made on all repeated instances of the recommendation.

3. **Key terms are not defined and may be used inconsistently.**
   Key terms such as "encourage", "specify", "permit", "include", etc. are not used consistently in the tables and provide very different direction to those preparing amendments to the codes.
   Recommendation: Define terms and then go through the table to ensure that they are used as intended.

4. **Redevelopment provisions do not incentivize redevelopment over Greenfield development.**
   ESD requirements for redevelopment are greater, as a percentage of the total site, than Greenfield development. Generally, higher-density, redevelopment projects could require approximately 8.5% of the site to be an ESD filter area vs. new development/greenfields, which require only 6%. At the same time, there is less ground available for high-density sites than for Greenfield sites.
   Recommendation: Make fee-in-lieu, alternative strategies and structural BMPs easier to achieve. At present, fee in lieu does not appear to be an option and the viability of alternative management strategies, particularly in urban environments, is questionable and a significant hurdle, at best. It is not clear when and under what conditions are structural BMPs permissible. MCDEP should ensure that Watershed Management Plans explicitly create opportunities that will facilitate redevelopment.

5. **Redevelopment provisions, which are intended to be less stringent than new development provisions, do not apply to all smart growth projects.**
   The policy debate in Maryland is that 'smart growth' is accommodated in the new regulations by way of the 'redevelopment' provisions, which only measures existing site imperviousness. Smart growth projects are not explicitly defined based on their existing use/impervious area that is being replaced. They are projects that incorporate a variety of uses, are generally higher density, compact communities – often located near transit options.
   Recommendation: Expand the definition of redevelopment to include smart growth projects and/or by existing impervious area at a lower, more reasonable standard (15-20% Ia).

6. **Many smart growth projects will not be able to achieve the minimum 1" standard using ESD under the new development provisions.**
   Those smart growth projects located on previously undeveloped properties with little to no impervious area, which there are plenty, will have to set aside a minimum area for ESD filter areas. They do not have the ability to rely on 'alternative strategies' or ESD to the MEP – they must use ESD to meet the minimum 1" and then the MEP after that. The only relief to accomplish these project appears to be to obtain a waiver, which is considered by the business and investing community as unlikely.
   Recommendation: Expand the definition of redevelopment to include smart growth projects and/or by existing impervious area at a lower, more reasonable standard (15-20% Ia).

7. **Many ESD facilities are inappropriate for the urban and pedestrian domain and need to be carefully considered.**
   The primary difference between traditional SWM and ESD is that traditional SWM is 'volume-based', which allows the volumetric storage area to be used to treat runoff while ESD is 'area-based', which consumes more land area and cannot be co-located with other uses. These areas generally remain moist or saturated for most of the year and require constant maintenance. In order to begin to accommodate in an urban setting, most to all of the green areas, including foundation plantings, will be used for ESD rather than other public uses.
   Recommendation: Have a public policy discussion about the role and purpose of the public domain and provide clear guidance under what specific circumstances should ESD be provided and when is it inappropriate.

8. **Maintenance of ESD facilities, particularly alternative surfaces and micro-scale practices, are very intensive**
   Since ESD facilities rely on filtration through the soil media to cleanse the runoff, the facilities could require constant maintenance (remediating soil) to maintain porosity. Alternative surfaces, such as green roofs and permeable surfaces, need to be maintained several times a year to be effective. The maintenance of these facilities can be disruptive, costly, and a significant burden on local businesses and communities.
   Recommendation: Have a public policy discussion about the impact and costs of maintaining ESD facilities and provide clear guidance as to how this factors in to MEP.

9. **Failure to properly maintain ESD facilities described in #5 causes landscapes to perform like landscapes with no (zero) storm water management.**
   In the event that ESD facilities are no longer able to filter water through the soil (due to lack of maintenance, future homeowner modifications, etc) the facilities will become inundated with water and cause future runoff to flow around with no treatment. Since the site would have been designed to incorporate ESD filter areas throughout, creating a centralized traditional SWM to fix the problem may not be an option.
   Recommendation: As part of the MEP standard, include maintenance considerations. Also, include this element as part of the public policy discussion and provide clear guidance.

10. **Non-structural practices (sheetflow to conservation areas, impervious area disconnect credits) can expand the development footprint**
    For the limited number of projects that are able to utilize this credit, typically low-medium density residential communities, the limits of disturbance are increased. This is because in order to use this credit, a maximum slope for all grades is necessary. In the past, a 3:1 or 4:1 grade tieout or a retaining wall could be used to minimize the development footprint. In the future, if grades along the perimeter tie out at slopes less than 5% the contributing impervious areas have their ESD requirements met. This causes greater land consumption and disturbance for the community and greater pressure on the edges of the community on stream buffers and forest conservation areas.
    Recommendation: Allow non-structural practices as a 'by-right' permitted impact to non-forested stream buffers. Currently, the applicant has to meet a high burden of proof. Such a burden is likely to be avoided by most applicants/investors. The alternative will be to not provide ESD.

11. **Decentralized, micro-scale practices can expand the development footprint.**
    The decentralization of SWM as micro-scale ESD practices consumes more land. There is greater area consumed as side-slopes to these many small facilities and there are many more

facilities than previously. As a result, the footprint of the community and disturbed area is expanded.
Recommendation: Permit vegetated non-structural and micro-scale practices to be included within a site's afforestation area. A new category of innovative conservation easement may be required that addresses replacement of vegetation and performance.

12. **Direct and indirect land consumption by ESD facilities is the key impediment.** As explained above, ESD's filter area approach consumes more land than traditional SWM facilities, which relied on a volume based approach. Thus, there is a greater demand on land assets (thus…stormwater sprawl). For instance, a recommendation of the consultant is to expand the width of parking islands to allow ESD facilities. This is potentially problematic as there is also a shading requirement and even more ground is now needed if the proposed trees cannot be located near underdrains. Same with lighting and perimeter screening/buffering.

    There are some parking landscape islands (at the top of a hill) that may not be practical for ESD facilities. Since the minimum size of the island will depend on the type of ESD, soil characteristics, and the character of the area draining to it (permeable vs. impervious paving materials). Specifying a minimum size could actually limit, rather than increase, ESD options. It is more appropriate to have ESD evaluated during the SWM review for performance rather than impose a one-size fits all minimum.
    Recommendation: Consider the direct and indirect effects of land consumption as a key impediment. Make ESD less of a sprawling option and it is more likely to be incorporated. Remove the requirements for competing uses.

13. **Encourage the increased use of pervious materials by providing credits when calculating compliance with regulatory or administrative impervious limits.** The MNCPPC does not consider pervious materials as pervious. For example, pervious concrete sidewalks, reinforced turf and other alternative surfaces are considered to be 100% impervious. While it is understood that such surfaces require more maintenance, I think we all agree that these approaches provide a benefit and that benefit can be quantified. As justification for utilizing these surfaces, we are told by the scientific, regulatory and environmental community that the long-term performance of permeable solutions is proven.
    Recommendation: Require imperviousness calculations to include credits for pervious and semi-pervious materials that reduce or treat stormwater runoff. Such an approach will incentivize the use of permeable surfaces.

14. **Requiring ALL properties removing a tree to submit a Water Quality Plan under Sec. 22A-5 is excessively burdensome to staff, applicants, and government agencies.** This would require every homeowner, HOA, and government agency that cuts down a single tree to spend thousands of dollars to file a Water Quality Plan. Several County agencies would need to add staff to accommodate the increased work load. This is not directly linked to the task of identifying "barriers, gaps and opportunities" for ESD.
    Recommendation: Delete this recommendation from the table.

15. **The recommendation to require increased tree canopy in parking lots actually increases the amount of impervious surface and is counterproductive.** If an applicant is able to utilize increased tree canopy as an effective ESD, then nothing in the code is stopping them. M-NCPPC or DPS does not provide stormwater management credit or reduced imperviousness from the increased size of the planting area – the future canopy will

not be given any credit. For every foot of additional width for a planting island, 40 square feet of paving is added to a parking lot. The 20-foot wide driving aisle has to be extended on both sides of the island (20x2= 40 square feet). This is not directly linked to the task of identifying "barriers, gaps and opportunities" for ESDs.
Recommendation: Delete this recommendation from the table.

16. **Creating maximum parking limits in Sec. 59-E-3.7 is not directly linked to ESD and is a much broader policy discussion.**
If an applicant is building an underground garage or a garage with a green roof, the number of spaces has no effect on SWM. The parking requirement is not a barrier to ESD. ESD can still be achieved on a site that has more than the minimum number of parking spaces. Even if someone wants to build more than the minimum, they still have to meet ESD. Applicants often are criticized by for not having enough guest parking in new neighborhoods even when we are over the minimums. In addition, there are cases where the applicant is proposing a use that will generate more parking demand than the code requires and does so to reduce neighborhood impacts and improve the financial success of the project. The cost of parking is so high that applicant's tend not build excess parking unless it is justified. In addition, many large business and governments will not consider leasing buildings that have less than a certain ratio of parking spaces. Banks will not finance a project if parking is inadequate. A more effective tool to reducing the amount land covered by parking is to provide additional flexibility to receive parking waivers and to get credit for "minimizing impervious area."
Recommendation: Replace this recommendation from the table and replace it with a recommendation to provide additional flexibility to receive parking waivers and to get credit for "minimizing impervious area."

17. **Modifying the Green Area definition in Section 59-C-1.627 to require ESD features in each Green Area ignores the other objectives that the Green Area definition was originally established to provide.**
There are many publicly beneficial uses of Green Area that are not related to compliance with stormwater management regulations. However**,** most of the ESD facilities have traditionally been considered as Green Area. Stipulating "what ESD features the green area should/can include" is only likely to further restrict what is included as Green Area. Use of the word "should" must be avoided because there are some Green Areas that have other functions (such as wetlands, streams or rock outcropping) which may not be suitable for ESD features. Requiring a Green Area to contain ESD may lead to more "stormwater sprawl" as additional land has to be set aside to meet a Green Area standard that requires ESD measures in each Green Area.
Recommendation: Delete this recommendation from the table or simply add that stormwater management facilities among the items included in Green Area.

18. **The minimum Green Area requirements in Sections 59-C-4.311-414 are not impediments to achieving ESD.**
The consultant needs to identify the ESD measures that they believe are excluded from Green Area to see if the definition should be broadened rather than trying substitute their judgment for the County Council's judgment on the appropriate Green Area requirement for each zone in the County. Although many developments may need to increase the Green Area as a result of complying with ESD, they shouldn't have to if they are able to comply with ESD and meet today's minimum Green Area Requirements.
Recommendation: Delete this recommendation from the table or simply add that stormwater management facilities among the items included in Green Area.

19. **The recommendation to include requirements for ESD in landscaping areas appears to restrict, rather than expand, opportunities for ESD.**
    The Zoning Ordinance should not be proscribing how to meet stormwater management requirements and ESD. The more proscribed it is, the less creative people can be to meet the goals. In addition, an application shouldn't be penalized for containing a landscaping area on a site that doesn't appear to meet ESD, but still meets all of the requirements for stormwater management. Taken to its extreme, which often is the case, some will try to use this provision to prohibit the use of impervious paving materials or a rock garden.
    Recommendation: Delete this recommendation from the table.

20. **The Zoning Ordinance should not dictate how to comply with stormwater management regulations.**
    The comments on Section 59-C-5.46 and 7.1 recommend "ESD as a preferable method of stormwater management." The Stormwater Management Regulations will specify the requirements. If history has shown us anything on SWM it is that preferences will change. If there is an impediment to ESD in these sections it should be explicitly identified with a recommendation to amend or remove it so it isn't in conflict with SWM regulations.
    Recommendation: Delete this recommendation from the table.

21. **The recommendation to expand Section 59-D-1.61(Development Plan Approval) is unnecessary since section (d) already covers sediment control, SWM, and natural features.**
    The stormwater management regulations, not the Zoning Ordinance should control how ESD is required.
    Recommendation: Delete this recommendation from the table.

22. **It is not clear explain why ESD needs to be an element of the Special Trip Reduction Guidelines in Section 59-C-5.436.**
    The stormwater management regulations, not the Zoning Ordinance should control how ESD is required.
    Recommendation: Delete this recommendation from the table.

23. **The stormwater management regulations, not the Zoning Ordinance should control how ESD is required.**
    The recommendation that "ESD requirements based on building size - i.e. if greater than 15000 sq feet it must include these ESD features, if greater than 50,000 feet, it must include this set of features, etc." In redevelopment areas, the practical reality is that these bigger buildings may have fewer realistic options. Again, proscribing specific features of ESD in the Zoning Ordinance limits, rather than expands the options.

Recommendation: Delete this recommendation from the table.

Green Roof Tab

24. **The proposed exemptions from height limits, bonus height, inclusion in green area calculations, etc. are necessary tools to achieving the master plan visions and balancing other competing public policy objectives.**
    Recommendation: Retain proposed exemptions from height limits, bonus height, and inclusion of ESD in green area calculations.

25. **Recommends increasing the minimum Green Area requirements in multiple sections.**
    Please see previous discussions of this often-repeated recommendation.
    Recommendation: Delete this recommendation from the table.

26. **It is inappropriate for the Zoning Ordinance to require a specific stormwater management technique like green roofs on high density buildings in Sect 59-C-6.23. There are many ways to achieve ESD that do not require a green roof. In addition, there are buildings where a green roof may not be desirable.**
    Again, proscribing specific features of ESD in the Zoning Ordinance limits, rather than expands the options.
    Recommendation: Delete this recommendation from the table.

Permeable Pavements Tab

27. **The recommendations for permeable paving are both unclear and inconsistent.**
    Section 59-C-15.55 "specify use of permeable pavement for parking surfaces." Need to know if this permits or requires permeable paving. Section 59-C-7.58 talks about it as a requirement. Sect 59-C-2.21 "encourage roads to use permeable pavement" – need to get credit in SWM and MNCPPC calculations (especially impervious caps). These may not be the appropriate sections to specify permitted paving materials.
    Recommendation: Support the permeable paving as a permitted paving material, but not as a requirement. There are many locations where permeable paving is not appropriate from a maintenance, safety, or aesthetic perspective. Use of permeable paving should receive credits in SPA imperviousness caps and stormwater management calculations. The definition of SPA imperviousness caps may need to be amended to require credit for these ESDs.

Reinforced Turf Tab

28. **It is our understanding that the fire marshal is only allowing the reinforced turf referenced in Section 22-32(a) & (b) as a transition from the old code to the current code.**
    The Fire Marshal's office has told us that they are not approving any use of reinforced turf to meet fire access requirements on new applications.
    Recommendation: Delete this recommendation from the table.

29. **The recommendation in Section 59-C015.55 to "specify use of reinforced turf" is not clear.**
    Because it is not being permitted to serve as fire access it may not be appropriate on many developments. In addition, care would need to be taken to avoid an interpretation that all grass areas have to be reinforced turf.
    Recommendation: Change this recommendation to "allow use of reinforced turf for parking and infrequent access areas, as appropriate."

Disconnection Non-Rooftop Tab

30. **The recommendation to "specify drainage of parking lot runoff into ESD feature, disconnected from sewer drainage or direct waterway drainage" needs to be clarified to indicate if it is required, encouraged, or permitted**.
    There are many cases where this is not practical or desirable and other cases where it might be feasible.
    Recommendation: Replace "specify" with "allow" and ensure that appropriate credits are received.

Sheetflow to Conservation Areas Tab:

31. **ESD should not be a required finding of Site Plan approval.**
    The stormwater management regulations, not the Zoning Ordinance should control how ESD is required.
    Recommendation: Delete this recommendation from the table.

32. **The recommendation allowing drainage into conservation areas was previously discussed and can actually expand the area required to meet stormwater management requirements.**

    Recommendation: Allow non-structural practices as a 'by-right' permitted impact to non-forested stream buffers.

Landscape Infiltration Tab:

33. **The recommendation to "require native plants" precludes the use of many plants that are can be used to improve stormwater management and aesthetics.**
    Recommendation: Delete this recommendation from the table.

34. **The increase shade requirement in parking and loading areas plus minimum planted area sizes actually increases the amount of impervious surface and is counterproductive.**
    For every foot of additional width for a planting island, 40 square feet of paving is added to a parking lot. The 20-foot wide driving aisle has to be extended on both sides of the island (20' x 2'= 40 square feet). If an applicant is able to utilize increased tree canopy as an effective ESD, then nothing in the code is stopping them. We are unaware that M-NCPPC or DPS provides any stormwater management credit or reduced imperviousness from the increased size of the planting area – the future canopy will not be given any credit. Again, this sounds more like an attempt at a tree bill and is not directly linked to the task of identifying "barriers, gaps and opportunities" for ESDs.
    Recommendation: Delete this recommendation from the table.

Micro Bioretention Tab:

35. **There are differences in the recommendations is an inconsistency in the recommendations.**
    Section 59-15.55 "specify" micro bioretention of parking lot runoff while the other recommendation "include" micro bioretention. As previously discussed, any specific technique will not fit every location. The Zoning Ordinance should not proscribe how the Stormwater Management regulations are achieved. Further, if infiltration is adequate and proven, wouldn't Landscape Infiltration be a better practice? Maybe. Maybe not.
    Recommendation: Amend the recommendation to recognize the use of Micro Bioretention, but don't require

36. **The recommendation to "require native plants" precludes the use of many plants that are can be used to improve stormwater management and aesthetics.**
    Recommendation: Delete this recommendation from the table.

37. **The recommendation to increase the minimum parking lot landscaping requirements from 10 to 15% is not required to meet ESD.**
    As previously mentioned, increasing the size of planting islands requires more paving to park the same number of cars.
    Recommendation: Delete this recommendation from the table.

Enhanced Filters Tab

38. **The recommendation to "specify enhanced filters of parking lot runoff" is not clear.**
    Recommendation: Clarify this recommendation and discuss with the Committee.

While this is a fairly exhaustive list of issues, I am sure it is not inclusive of all the issues and challenges and I would consider this a draft working document. Many of the issues raised are semantic in nature and hopefully more explicit, clear and direct language is all that is needed. Other issues reflect the unintended consequences and/or direct and indirect side effects of such a recommendation that creates secondary issues, which then creates yet another policy conflict. Given the monumental effort needed coupled with the limited resources, it would make sense to prioritize issues and address them in turn.

Thanks and I look forward to the continued dialogue.